CLAIMS

1. (Previously Presented) A mobile communication network system that comprises:

a mobile communication network;

a plurality of external networks;

a plurality of mobile terminals;

a plurality of gateways for connecting said external networks and said mobile communication network; and

a plurality of radio access points for connecting said mobile terminals to said mobile communication network,

wherein, when packets are transmitted and received between said mobile terminals, the packets are communicated by way of virtual networks that are provided to correspond to each of said external networks on said mobile communication network.

2. (Previously Presented) A mobile communication network system that comprises:

a mobile communication network;

a plurality of external networks;

a plurality of mobile terminals;

a plurality of gateways for connecting said external networks and said mobile communication network; and

a plurality of radio access points for connecting said mobile terminals to said mobile communication network,

wherein said mobile communication network comprises means for offering virtual networks that correspond to each said external network;

wherein said gateways include means for connecting said external networks to a corresponding one of said virtual networks; and

wherein said mobile terminals include means for setting sessions with said radio access points for any of said external networks,

wherein said radio access points comprise:

means for transferring packets that have been received from any of said sessions to a virtual network that has been prepared for an external network that corresponds to that session; and

means for transferring packets, which have been received from said virtual network that corresponds to said external network, to a session that has been set for said external network by said mobile terminal that is a destination of these packets, and

wherein private leased line connections are provided between said mobile terminals and said external networks, and when transmission or reception of packets is realized between said mobile terminals, the packets are communicated by way of virtual networks that are provided to correspond to each of said external networks on said mobile communication network.

3. (Previously Presented) A mobile communication network system according to claim 2, wherein each of said radio access points comprises:

means for, when a mobile terminal is to be handed over from a current radio access point to which it is currently connected to a new radio access point, transferring information of all sessions that said mobile terminal has set to the new radio access point; and

means for acquiring said setting information of sessions that is transmitted in from said current radio access point.

4. (Previously Presented) A mobile communication network system according to claim 2, wherein said mobile communication network further comprises a mobility management node that comprises a plurality of virtual mobility management nodes that each comprises:

means that is prepared for each of said external networks for transmitting and receiving packets only with a virtual network that has been prepared for use by a corresponding external network;

means for holding positional information that has been reported from said mobile terminals; and

means for, when packets that are addressed to said mobile terminals are received, transferring these packets to positions that have been reported from said mobile terminals,

wherein each of said mobile terminals further comprises:

means for reporting positional information to said virtual mobility

management node that corresponds to said external network to which the mobile terminal is to be connected.

5. (Previously Presented) A mobile communication network system according to claim 2, wherein said mobile communication network further comprises:

a control/management virtual network;

means for transmitting and receiving, by way of said control/management virtual network, packets for control and management that are exchanged between nodes that are arranged within said mobile communication network and that include said radio access points and mobility management nodes; and

means for refusing packets for control and management that have been received from sources other than said control/management virtual network.

6. (Previously Presented) A mobile communication method in a mobile communication network system comprising:

a mobile communication network;

a plurality of external networks;

a plurality of mobile terminals;

a plurality of gateways for connecting said external networks and said mobile communication network; and

a plurality of radio access points for connecting said mobile terminals to said mobile communication network,

said mobile communication method comprising:

setting, by a mobile terminal, a session for any of said external networks with said radio access point;

transferring, by a radio access point, packets that have been received from any said session to a virtual network that has been prepared for each of said external networks that corresponds to the session; and

transferring, by said radio access point, packets that have been received from said virtual network that corresponds to any external network to the session that has been set for a use of said external network by said mobile terminal that is a destination of the packets.

7. (Previously Presented) A mobile communication method according to claim 6, further comprising:

transferring, by said current radio access point, when a said mobile terminal is to be handed over from a current radio access point to which it is currently connected to a new radio access point, all of said session information that said mobile terminal has set to said new radio access point; and

acquiring, by said new radio access point, from said current radio access point, all of said session setting information that said mobile terminal has set.

8. (Previously Presented) A mobile communication method according to claim 6, further comprising:

transmitting and receiving, by each of a plurality of virtual mobility management nodes that are prepared for each of said external networks and that together constitute a mobility management node that is provided within said mobile communication network, packets only with a virtual network that has been prepared for the use of a corresponding said external network;

reporting, by said mobile terminal, positional information to said virtual mobility management node that corresponds to said external network to which said mobile terminal is connected; and

holding, by each of said virtual mobility management nodes, positional information that has been reported from said mobile terminal, and upon receiving packets that are addressed to said mobile terminal, transferring these packets to a position that is reported from said mobile terminal.

9. (Previously Presented) A mobile communication method according to claim 7, further comprising:

transmitting and receiving packets for control and management that are transmitted and received between said radio access points, said mobility management nodes, and said gateways that are arranged within said mobile communication network by way of a control/management virtual network that is provided within said mobile communication

network; and

refusing packets for control and management that have been received from a source other than said control/management virtual network.

10. (Previously Presented) A mobile communication network system according to claim 3, wherein said mobile communication network further comprises:

a control/management virtual network;

means for transmitting and receiving, by way of said control/management virtual network, packets for control and management that are exchanged between nodes that are arranged within said mobile communication network and that include said radio access points and said mobility management nodes; and

means for refusing packets for control and management that have been received from sources other than said control/management virtual network.

11. (Previously Presented) A mobile communication network system according to claim 4, wherein said mobile communication network further comprises:

a control/management virtual network;

means for transmitting and receiving, by way of said control/management virtual network, packets for control and management that are exchanged between nodes that are arranged within said mobile communication network and that include said radio access points and said mobility management nodes; and

means for refusing packets for control and management that have been received from sources other than said control/management virtual network.

12. (Previously Presented) A mobile communication network system according to claim 1, wherein said mobile communication network further comprises:

a control/management virtual network;

a unit for transmitting and receiving, by way of said control/management virtual network, packets for control and management that are exchanged between nodes that are arranged within said mobile communication network and that include said radio access points and mobility management nodes; and

a unit for refusing packets for control and management that have been received from sources other than said control/management virtual network.

13. (Previously Presented) A mobile communication method according to claim 8, further comprising:

transmitting and receiving packets for control and management that are transmitted and received between said radio access points, said mobility management nodes, and said gateways that are arranged within said mobile communication network by way of a control/management virtual network that is provided within said mobile communication network; and

refusing packets for control and management that have been received from a source other than said control/management virtual network.

14. (Previously Presented) A mobile communication network system according to claim 1, wherein said packets are communicated by way of said virtual networks rather than said external networks.

15. (Previously Presented) A mobile communication network system according to claim 2, wherein said packets are communicated by way of said virtual networks rather than said external networks.

16. (Previously Presented) A mobile communication method according to claim 6, wherein said packets are communicated by way of said virtual network rather than said external networks.

17. (Previously Presented) A mobile communication network system according to claim 1, wherein, in realizing communication between the mobile terminals, communication is realized by returning at a radio access point when each of the mobile terminals is under a jurisdiction of a same radio access point, communication is realized by way of an access network when each of the mobile terminals is under a jurisdiction of a same access network,

and communication is realized by way of a core network when each of the mobile terminals is under a jurisdiction of different access networks.

18. (Previously Presented) A mobile communication network system according to claim 2, wherein, in realizing communication between the mobile terminals, communication is realized by returning at a radio access point when each of the mobile terminals is under a jurisdiction of a same radio access point, communication is realized by way of an access network when each of the mobile terminals is under a jurisdiction of a same access network, and communication is realized by way of a core network when each of the mobile terminals is under a jurisdiction of different access networks.

19. (Previously Presented) A mobile communication method according to claim 6, wherein, in realizing communication between the mobile terminals, communication is realized by returning at a radio access point when each of the mobile terminals is under a jurisdiction of a same radio access point, communication is realized by way of an access network when each of the mobile terminals is under a jurisdiction of a same access network, and communication is realized by way of a core network when each of the mobile terminals is under a jurisdiction of different access networks.

20. (Previously Presented) A mobile communication network system according to claim 1, wherein packets on core networks or access networks are transferred using multicast.